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Kang Soo Seo

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EXAMINER

ZHAO, DAQUAN

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/674,507	<b>Applicant(s)</b> SEO ET AL.	
	<b>Examiner</b> DAQUAN ZHAO	<b>Art Unit</b> 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 2/26/2008 have been fully considered but they are not persuasive.
2. On pages 8-11 of the remark, Applicant argues the data structure in claims 16-24 is a functional descriptive material and assert that the data structure of claims 16-24 meets the definition of the new IEEE Standard Dictionary of Electrical and Electronics Terms 308: "a physical or logical relationship among data elements". The examiner disagrees. Claims 16 recites a computer-readable medium storing a data structure for managing data stored on the computer-readable medium, comprising: at least one main video image; at least one graphic image file...; and at least one graphic link information file. There's no physical or logical relationship among data elements, designed to support specific data manipulation functions. The examiner does not consider "**for** managing data stored on the computer-readable medium" as a limitation of the claim because this is intended use and the claim does not require "managing data stored on the computer-readable medium to be perform". There's no description for the "computer-readable medium" for claims 16-24 because even though the specification describes the DVD, the term "computer-readable medium" can also means "a signal". The specification describes "a recording medium", but it does not describe the "computer-readable medium". Moreover, the recording medium, such as DVD, itself does not have any functionality until the medium (DVD) is inserted in a (DVD) player or a computer. It is the playback device or the playback program of the (DVD) player or a

computer makes the function of the medium to be realized. The medium (DVD), just by itself, does nothing.

3. On pages 8-11 of the remark, applicant also discussed "In re Lowry", wherein claim 1 of In re Lowry recited: "a memory for storing data for access by an application program being executed on a data processing system, comprising...". For the same reasons above, In re Lowry has a data processing system to execute the program stored in a memory, wherein the "program" is a functional descriptive material and the "execution" of this program in a data processing system permits the function to be realized. Again, applicant's claim does none of that in "In re Lowry".

4. On pages 12-15, applicant argues the tables shown in figure 12 are not saved on the same computer-readable medium as the image data, wherein applicant's claims require the "link information", the graphic images and the main video are recorded on the same computer-readable medium. The examiner disagrees.

Columns 3, lines 40-51; column 4, lines 1-14; and column 7, line 61-column 8, line 8 of Kim teaches the sub-picture data or the caption data are link to the moving picture data falling into a predetermined period of time. Figure 14 also shows that the caption data is overlay on a main moving picture image. After the overlaying of the caption image onto the main moving image, the user can choose a caption among captions listed in the caption display window, see column 8, lines 8-17 and column 5, lines 17-23. The, sub-picture search table, PTT table is created for use to search for the caption data in a rapid fashion, column 8, lines 18-38. Column 4, lines 1-14 and column 7, line 61- column 8, line 8 teach the caption data and the moving picture are linked to

each other in a predetermined period of time, and the "pack start code" is the codes that start the playback of the video, and the sub-picture, or caption data. Therefore, the examiner considered the "pack start code" is the link information that links the caption data or sub-picture data and the moving picture or main video data in time. These data are all stored in the DVD.

The examiner also maintains the original claim interpretation that the examiner considered the "caption-based moving picture data search information" or the sub-picture search table of figure 12 as the link information that links the sub-picture data and the video data. Kim's invention creates the table of figure 12 for user to change the caption data of a moving picture, see column 8, lines 34-39 and figure 14. The table of figure 12 is stored in a hard disk, see column 7, lines 24-40. It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the teaching of Kim to store the link information (sub-picture search table of figure 12) for the same purpose of the teaching of Kim, which is to avoid a redundant creation operation that take place when the same optical disk is inserted in the optical disk driver because the system does not have to create the link information (sub-picture search table of figure 12) when the user play the same disk in a different machine if the link information (sub-picture search table of figure 12) is stored in the same disk with the main video.

**All grounds of rejection are maintained. This action is according made FINAL.**

***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility” (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Nonfunctional descriptive material that does not constitute a statutory process, machine, manufacture or composition of matter and should be rejected under 35 U.S.C. Sec. 101. Certain types of descriptive material, such as music, literature, art, photographs, and mere arrangements or compilations of facts or data, without any functional interrelationship is not a process, machine, manufacture or composition of matter. USPTO personnel should be prudent in applying the foregoing guidance. Nonfunctional descriptive material may be claimed in combination with other functional descriptive multimedia material on a computer-readable medium to provide the necessary functional and structural interrelationship to satisfy the requirements of 35 U.S.C. Sec. 101. The presence of the claimed nonfunctional descriptive material is not necessarily determinative of nonstatutory subject matter. For example, a computer that recognizes a particular grouping of musical notes read from memory and upon recognizing that particular sequence, causes another defined series of notes to be played, defines a functional interrelationship among that data and the computing processes performed when utilizing that data, and as such is statutory because it implements a statutory process.

Claims 16-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows.

Claim 16 recites a [data structure, mere compilation of data, a photograph, an image, etc.] which does not impart functionality to a computer or computing device, and is thus considered nonfunctional descriptive material. Such nonfunctional descriptive material, in the absence of a functional interrelationship with a computer, does not constitute a statutory process, machine, manufacture or composition of matter and is thus non-statutory per se.

Claims 17-24 are also affected.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4, 5 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6,754,435 B2) and further in view of Burgess et al (US 7,110,137 B2).

**Regarding claim 1**, Kim teaches a method of recording graphic data on a recording medium, comprising:

(a) recording a plurality of graphic images pertaining to a main video image separately with the main video image (e.g. figure 4 and column 3, lines 52-67, the sub-picture data, which corresponds to the “graphic images”, is recorded in the disk “separately with” the video data); and

(b) recording graphic link information to link the plurality of graphic images with the main video image for overlaying the main video image with the plurality of graphic images (e.g. figure 14, column 6, lines 11-40, the sub-picture data overlay with the video data as shown in figure 14, the PTT table links the Video Title and the corresponding sub-picture, or caption data, also see column 5, lines 45-50, column 4, lines 53-56; Columns 3, lines 40-51; column 4, lines 1-14; and column 7, line 61-column 8, line 8 of Kim teaches the sub-picture data or the caption data are link to the moving

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picture data falling into a predetermined period of time. Figure 14 also shows that the caption data is overlay on a main moving picture image. After the overlaying of the caption image onto the main moving image, the user can choose a caption among captions listed in the caption display window, see column 8, lines 8-17 and column 5, lines 17-23. The, sub-picture search table, PTT table is created for use to search for the caption data in a rapid fashion, column 8, lines 18-38. Column 4, lines 1-14 and column 7, line 61- column 8, line 8 teach the caption data and the moving picture are linked to each other in a predetermined period of time, and the "pack start code" is the codes that start the playback of the video, and the sub-picture, or caption data. Therefore, the examiner considered the "pack start code" is the link information that links the caption data or sub-picture data and the moving picture or main video data in time. These data are all stored in the DVD.

The examiner also maintains the original claim interpretation that the examiner considered the "caption-based moving picture data search information" or the sub-picture search table of figure 12 as the link information that links the sub-picture data and the video data. Kim's invention creates the table of figure 12 for user to change the caption data of a moving picture, see column 8, lines 34-39 and figure 14. The table of figure 12 is stored in a hard disk, see column 7, lines 24-40. It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the teaching of Kim to store the link information (sub-picture search table of figure 12) for the same purpose of the teaching of Kim, which is to avoid a redundant creation operation that take place when the same optical disk is inserted in the optical disk driver because the



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system does not have to create the link information (sub-picture search table of figure 12) when the user play the same disk in a different machine if the link information (sub-picture search table of figure 12) is stored in the same disk with the main video).

However, Kim fails to teach graphic images having different color depths.

Burgess et al teach graphic images having different color depths (e.g. figure 5, column 5, line 55- column 6, line 4, the foreground image has different color depth). It would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate the teaching of Burgess et al into the teaching of Kim to permit greater and/or more efficient compression by eliminating unneeded color specifying bits per pixel and/or faster compression and rendering performance (Burgess et al, column 6, lines 1-4).

**Claim 25** is rejected for the same reasons as discussed in claim 1 above, Wherein column 5, lines 45-50, teach the sub-picture search table has location information of the moving picture data which are concurrently reproduced with the sub-picture data corresponds to "reproducing a main video image overlaid with at least one graphic image based on the reading of the graphic link information.

**For claims 4 and 5**, Kim teach, column 5, lines 45-50, and figure 14, "the sub-picture search table", corresponding to the "link information" as claimed, link the moving picture with the sub-picture. Also see column 7, lines 41-60, the number of main video image does not make any patentable different.

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4. Claims 6, 16, 2, 3, 15, 24, 8, 18, 9, 19, 10, 20, 11, 21, 12, 13, 14, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6,754,435 B2) and Burgess et al (US 7,110,137 B2) as applied to claims 1, 4, 5 and 25 above, and further in view of Ochiai et al (US 2005/0,180,734 A1).

See the teaching of Kim and Burgess et al above.

**Regarding to claims 6 and 16**, Kim teaches, in column 5, lines 17- 22, and column 7, lines 24-41, the "sub-picture search table", which corresponds to the graphic link information as claimed, shown in figure 12 is stored in the hard disk 40 as a file. However, Kim and Burgess et al fail to specify files can be placed under a specific directory defined by a file structure of the recording medium or under at least one subdirectory created below the specific directory. Ochiai et al teach files can be placed under a specific directory defined by a file structure of the recording medium or under at least one subdirectory created below the specific directory (e.g. figure 9, paragraph [0159]). It would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate the teaching of Ochiai et al into the teaching of Kim to place the graphic image file and the graphic link information file under a specific directory defined by a file structure of the recording medium or under at least one subdirectory created below the specific directory for easily rewriting the data and achieve high reliability in when the data is reproduced (e.g. Ochiai et al, paragraph [0163]-[0165]).

**For claim 2**, Ochiai et al teach plurality of graphic images and graphic link information are grouped based on the said main video image (e.g. paragraph [0158]-[0159], claim reads on the subdirectory because the subdirectory is for grouping).

**For claims 3, 15 and 24**, Ochiai et al teach said plurality of graphic image and graphic link information are grouped based on the a title or a playlist of the recording medium ( e.g. [0161], "SMoo" is consider to be a title for the sub-directory).

**For claims 8 and 18**, Ochiai et al teach the subdirectory is created for each group of the graphic image files (e.g. paragraph [0158]-[0159], subdirectory).

**For claims 9 and 19**, Ochiai et al teach the single graphic image is organized to the single graphic file (e.g. figure 9, DCIM). The number of graphic image does not make any patentable difference.

**For claims 10 and 20**, Ochiai et al teach all of the graphic image to constitute a plurality of main video images are organized to the single graphic image file (e.g. figure 9, "MSxxx" moving image file).

**For claim 11 and 21**, Ochiai et al teach plurality of the graphic image pertaining to same group are organized to the single graphic image file (e.g. "DCIM", still image file storage directory).

**For claims 12, 13, 14, 22 and 23**, Kim teach, column 5, lines 45-50, and figure 14, "the sub-picture search table", corresponding to the "link information" as claimed, link the moving picture with the sub-picture. Also see column 7, lines 41-60, the number of main video image does not make any patentable different.

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5. Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6,754,435 B2), Burgess et al (US 7,110,137 B2) and Ochiai et al (US 2005/0,180,734 A1), as applied to claims 6, 16, 2, 3, 15, 24, 8, 18, 9, 19, 11, 21, 12, 13, 14, 22, 23, 1, 4, 5 and 25 above, and further in view of Russ (US 5,446,857).

See the teaching of Kim, Burgess et al, and Ochiai et al above.

For claims 7 and 17, Kim, Burgess et al, and Ochiai et al fail to teach the read-only directory, Russ teach the read-only directory (e.g. column 7, lines 53-59). It would have been obvious to one ordinary skill in the art at the time the invention was made to have incorporate the teaching of Russ into the teaching of Kim, Burgess et al, and Ochiai et al to record the file directory in the Read-only memory to protects files from being overwritten in subsequent operations.

Applicant's amendment necessitated the new ground(s) of rejection presented in this office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEG § 706.07 (a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136 (a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing data of this action. In the event a first reply is filed within TWO MONTHS of the mailing data of this action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period. Then the shortened statutory period will expire on the data the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing data of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the data of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daquan Zhao whose telephone number is (571) 270-1119. The examiner can normally be reached on M-Fri. 7:30 -5, alt Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Thai Q, can be reached on (571)272-7382. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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